

must be a violet inclining much to indico. At R where the violet-making, indico-making, blue-making, and one half of the green-making rays are mixed, their Colours must (by the construction of the second Problem) compound a middle Colour between indico and blue. At S where all the rays are mixed except the red-making and orange-making, their Colours ought by the same Rule to compound a faint blue, verging more to green than indie. And in the progress from S to T, this blue will grow more and more faint and dilute, till at T, where all the Colours begin to be mixed, it end in whiteness.

So again, on the other side of the white at T, where the least refrangible or utmost red-making rays are alone the Colour must be the deepest red. At σ the mixture of red and orange will compound a red inclining to orange. At ϵ the mixture of red, orange, yellow, and one half of the green must compound a middle Colour between orange and yellow. At χ the mixture of all Colours but violet and indico will compound a faint yellow, verging more to green than to orange. And this yellow will grow more faint and dilute continually in its progress from χ to π , where by a mixture of all sorts of rays it will become white.

These Colours ought to appear were the Sun's Light perfectly white: But because it inclines to yellow, the excess of the yellow-making rays whereby 'tis tinged with that Colour, being mixed with the faint blue between S and T, will draw it to a faint green. And so the Colours in order from P to T ought to be violet, indico, blue, very faint green, white, faint yellow, orange, red. Thus it is by the computation: And they that please to view

view the Colours made by a Prism will find it so in Nature.

These are the Colours on both sides the white when the Paper is held between the Prism, and the point X where the Colours meet, and the interjacent white vanishes. For if the Paper be held still farther off from the Prism, the most refrangible and least refrangible rays will be wanting in the middle of the Light, and the rest of the rays which are found there, will by mixture produce a fuller green than before. Also the yellow and blue will now become less compounded, and by consequence more intense than before. And this also agrees with experience.

And if one look through a Prism upon a white Object encompassed with blackness or darkness, the reason of the Colours arising on the edges is much the same, as will appear to one that shall a little consider it. If a black Object be encompassed with a white one, the Colours which appear through the Prism are to be derived from the Light of the white one, spreading into the Regions of the black, and therefore they appear in a contrary order to that, in which they appear when a white Object is surrounded with black. And the same is to be understood when an Object is viewed, whose parts are some of them less luminous than others. For in the Borders of the more and less luminous parts, Colours ought always by the same Principles to arise from the excess of the Light of the more luminous, and to be of the same kind as if the darker parts were black, but yet to be more faint and dilute.

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